REMARKS

Claim Rejections

Claims 101-107, and 111-125 are pending in the present case. Claims 102 and 103 are canceled without prejudice by the present amendment.

The Examiner has raised the a number of rejections. For clarity, these rejections are summarized below in the order in which they are addressed:

1. Claims 102 and 103 stand rejected under 35 USC § 112, first paragraph as allegedly failing to comply with the written description requirement;
2. Claims 101-106 and 111-125 stand rejected under 35 USC § 112, second paragraph as allegedly failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention;
3. Claims 101-104, 111-117, and 123-125 stand rejected as being allegedly being anticipated under 35 U.S.C. § 102(b) by Harrington, *et al.*, EMBO Journal vol 13:1235-1246 (1994), hereinafter "Harrington I;"
4. Claims 101-104, 111-117, and 123-125 stand rejected as being allegedly being anticipated under 35 U.S.C. § 102(b) by Harrington, *et al.*, J. Biol. Chem 270:4503-4508 (1995), hereinafter "Harrington II;"
5. Claims 105-106 stand rejected as being allegedly being unpatentable under 35 U.S.C. § 103(a) over Harrington I in view of Dahlberg, *et al.*, patent publication WO 94/29482, hereinafter "Dahlberg;"
6. Claims 105-106 stand rejected as being allegedly being unpatentable under 35 U.S.C. § 103(a) over Harrington II in view of Dahlberg;
7. Claims 105-106, 118-119 and 122 stand rejected as being allegedly being unpatentable under 35 U.S.C. § 103(a) over Harrington I in view of Urdea;
8. Claims 105-106, 118-119 and 122 stand rejected as being allegedly being unpatentable under 35 U.S.C. § 103(a) over Harrington II in view of Urdea;
9. Claims 120-121 stand rejected as being allegedly being unpatentable under 35 U.S.C. § 103(a) over Harrington I in view of Corey;

10. Claims 120-121 stand rejected as being allegedly being unpatentable under 35 U.S.C. § 103(a) over Harrington II in view of Corey;
11. Claims 101-106 and 111-125 stand rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over U.S. Patent No. 6,872,816, hereinafter "'816;"
12. Claims 101-106 and 111-125 stand rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over U.S. Patent No. 6,562,611, hereinafter "'611;"
13. Claims 101-103 and 111-125 stand rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over U.S. Patent No. 6,913,881, hereinafter "'881;"
14. Claims 104-106 stand rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over '881, in view of Dahlberg;
15. Claims 101-106 and 111-125 stand provisionally rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over co-pending Application Ser. No. 11/103,943, hereinafter "'943;"
16. Claims 101-106 and 111-120 and 122-125 stand provisionally rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over co-pending Application Ser. No. 11/031,487, hereinafter "'487;"
17. Claim 121 stands provisionally rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over co-pending Application '487 in view of Corey;
18. Claims 101-106 and 111-120 and 122-125 stand provisionally rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over co-pending Application Ser. No. 10/754,408, hereinafter "'408;"
19. Claim 121 stands provisionally rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over co-pending Application '408 in view of Corey;

The Claims Comply With the Written Description Requirement

1. Claims 102 and 103 stand rejected under 35 USC § 112, first paragraph as allegedly failing to comply with the written description requirement. In particular, the Examiner asserts that the claims comprise new matter with respect to the 3' terminal portion of a second oligonucleotide that is not complementary to said target strand. For business reasons and without acquiescing to the Examiner's arguments, and reserving the right to prosecute the same or similar claims in the future, Applicants herein cancel Claims 102 and 103 without prejudice, rendering this rejection moot. Applicants respectfully request that these rejections be removed.

The Claims Particularly Point Out the Subject Matter of the Invention

2. Claims 101-106 and 111-125 stand rejected under 35 USC § 112, second paragraph as allegedly failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention. In particular, the Examiner asserts the term "5' nuclease" is vague and indefinite. Applicants respectfully disagree.

As explained in the specification, "exonucleases" generally describe enzymes that remove nucleotides from ends of DNA chains (see, *e.g.*, page 39, lines 9-12), while "endonucleases" generally describe enzymes that cleave a nucleic acid molecule at an internal rather than a terminal site (page 40, lines 12-13). As further explained, it has been observed that some 5' "exonucleases" can also cleave endonucleolytically, even while requiring contact with a 5' end (page 40, lines 4-15). The term "5' nuclease" is used to describe these nucleases that can cleave both exo- and endonucleolytically, but that require contact with a 5' end (page 40, lines 14-16). Applicants submit that that the scope of this term is clear from the specification and respectfully request that these rejections be removed.

The Claims Are Not Anticipated

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. MPEP

2131, citing *Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d. 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)*. As explained in more detail below, none of the references cited sets forth each and every element of the rejected claims.

3. Claims 101-104, 111-117, and 123-125 stand rejected as being allegedly being anticipated under 35 U.S.C. § 102(b) by Harrington I. In particular, the Examiner asserts that Harrington I provides the recited oligonucleotides and thermostable 5' nucleases of the present invention. Applicants respectfully disagree.

Claim 101 (and all dependent claims) recites a first oligonucleotide and a second oligonucleotide that each comprise regions that are completely complementary to defined portions of a target nucleic acid. The target nucleic acid comprises two regions that are contiguous to each other, with the second region being downstream of the first region; "downstream" refers to the 3' direction along a nucleic acid strand (see, *e.g.*, the specification at page 29, lines 14-17). The first oligonucleotide comprises a portion that is completely complementary to the first region of said target nucleic acid. The second oligonucleotide comprises several features: it comprises a 5' portion that is completely complementary to the second region of the target nucleic acid, and it additionally comprises a 3' portion. When aligned with the target nucleic acid according to the various complementary portions, the first and second oligonucleotides can anneal to the target such that the contiguous first and second regions of the target are both completely annealed to the first and second oligonucleotides to form contiguous duplexes. When the target nucleic acid and oligonucleotides are annealed in this fashion, the 3' portion of the second nucleic acid molecule overlaps with the duplex formed by the first nucleic acid molecule and the target nucleic acid (see, *e.g.*, Figure 32C).

Claim 101 further recites a thermostable 5' nuclease lacking synthetic activity. The Examiner has interpreted the term "thermostable" as broadly encompassing a nuclease that is stable at a specific temperature, and asserts that the specification does not limit the term to any particular temperature. (Office Action page 5). This is incorrect. Applicants respectfully point out that the term "thermostable" as used in reference to an enzyme is specifically defined in the specification at page 32, lines 16-18, as referring to enzymes that are "functional or active (*i.e.*, that can perform catalysis) at an elevated

temperature, *i.e.* at about 55°C or higher." Harrington I teaches 5' nucleases isolated from mammalian cells and teaches their use at 30°C (see, *e.g.*, page 1245, column 1). Harrington I does *not* teach or suggest a 5' nuclease lacking synthetic activity that is functional or active at about 55°C or higher. As such, Harrington I does not teach the thermostable 5' nucleases recited in Claim 101 and dependent claims. Harrington I further does not teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure (as described above) when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking synthetic activity.

For the reasons recited above, Applicants submit that Harrington I does not teach or suggest each and every element set forth in Claims 101-104, 111-117, and 123-125, and thus does not anticipate these claims. Applicants therefore respectfully request that these rejections be removed.

4. Claims 101-104, 111-117, and 123-125 stand rejected as being allegedly being anticipated under 35 U.S.C. § 102(b) by Harrington II. In particular, the Examiner asserts that Harrington II provides the recited oligonucleotides and thermostable 5' nucleases of the present invention. Applicants respectfully disagree.

Claim 101 (and all dependent claims) recites a first oligonucleotide and a second oligonucleotide that each comprise regions that are completely complementary to defined portions of a target nucleic acid. The target nucleic acid comprises two regions that are contiguous to each other, with the second region being downstream of the first region; "downstream" refers to the 3' direction along a nucleic acid strand (see, *e.g.*, the specification at page 29, lines 14-17). The first oligonucleotide comprises a portion that is completely complementary to the first region of said target nucleic acid. The second oligonucleotide comprises several features: it comprises a 5' portion that is completely complementary to the second region of the target nucleic acid, and it additionally comprises a 3' portion. When aligned with the target nucleic acid according to the various complementary portions, the first and second oligonucleotides can anneal to the target such that the contiguous first and second regions of the target are both completely annealed to the first and second oligonucleotides to form contiguous duplexes. When the

target nucleic acid and oligonucleotides are annealed in this fashion, the 3' portion of the second nucleic acid molecule overlaps with the duplex formed by the first nucleic acid molecule and the target nucleic acid (see, *e.g.*, Figure 32C).

Claim 101 further recites a thermostable 5' nuclease lacking synthetic activity. The Examiner has interpreted the term "thermostable" as broadly encompassing a nuclease that is stable at a specific temperature, and asserts that the specification does not limit the term to any particular temperature. (Office Action page 9). This is incorrect. Applicants respectfully point out that the term "thermostable" as used in reference to an enzyme is specifically defined at page 32, lines 16-18, as referring to enzymes that are "functional or active (*i.e.*, that can perform catalysis) at an elevated temperature, *i.e.* at about 55°C or higher."

Harrington II teaches 5' nucleases isolated from mammalian and yeast cells (see, *e.g.*, 4503, column 2) and teaches their use at 30°C (see, *e.g.*, page 4504, column 1). Harrington II does *not* teach or suggest a 5' nuclease lacking synthetic activity that is functional or active at about 55°C or higher. As such, Harrington II does not teach the thermostable 5' nucleases recited in Claim 101 and dependent claims. Harrington I further does not teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure (as described above) when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking synthetic activity.

For the reasons recited above, Applicants submit that Harrington II does not teach or suggest each and every element set forth in Claims 101-104, 111-117, and 123-125, and thus does not anticipate these claims. Applicants therefore respectfully request that these rejections be removed.

The Claims Are Not Obvious

Prima facie obviousness requires 1) a suggestion or motivation in the references or the knowledge generally available to combine or modify the reference teachings; 2) the prior art must teach of a reasonable expectation of success should the suggested combination or modification take place; and 3) the prior art must teach or suggest all the claim limitations. M.P.E.P § 2143. A showing of obviousness will fail if any one of

these elements is not met. As explained in more detail below, none of the cited combinations of references cited sets forth each and every element of the rejected claims.

5. Claims 105-106 stand rejected as being allegedly being unpatentable under 35 U.S.C. § 103(a) over Harrington I in view of Dahlberg.

Claims 105 and 106 both depend from Claim 101 and incorporate each recited element of Claim 101. For the reasons recited above at **3**, Applicants submit that Harrington I does anticipate Claim 101 because Harrington I does not teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking synthetic activity. Dahlberg fails to overcome this deficiency. Dahlberg does not teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking synthetic activity, nor does Dahlberg teach the cleavage of such overlapping structures with a thermostable 5' nuclease lacking synthetic activity. While Applicants do not acquiesce that the other elements necessary for establishing prima facie obviousness have been met, Applicants submit that the combination of Harrington I and Dahlberg does not teach or suggest all the limitations of Claims 105 and 106, and the cited art therefore fails to establish prima facie obviousness. Applicants respectfully request that this rejection be removed.

6. Claims 105-106 stand rejected as being allegedly being unpatentable under 35 U.S.C. § 103(a) over Harrington II in view of Dahlberg.

Claims 105 and 106 both depend from Claim 101 and incorporate each recited element of Claim 101. For the reasons recited above at **4**, Applicants submit that Harrington II does anticipate Claim 101 because Harrington II does not teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking

synthetic activity. Dahlberg fails to overcome this deficiency. Dahlberg does not teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking synthetic activity, nor does Dahlberg teach the cleavage of such overlapping structures with a thermostable 5' nuclease lacking synthetic activity. While Applicants do not acquiesce that the other elements necessary for establishing prima facie obviousness have been met, Applicants submit that the combination of Harrington II and Dahlberg does not teach or suggest all the limitations of Claims 105 and 106, and the cited art therefore fails to establish prima facie obviousness. Applicants respectfully request that this rejection be removed.

7. Claims 105-106, 118-119 and 122 stand rejected as being allegedly being unpatentable under 35 U.S.C. § 103(a) over Harrington I in view of Urdea.

Claims 105-106, 118-119 and 122 depend from Claim 101 and incorporate each recited element of Claim 101. For the reasons recited above at **3**, Applicants submit that Harrington I does anticipate Claim 101 because Harrington I does not teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking synthetic activity. Urdea fails to overcome this deficiency. Urdea teaches the cleavage of a labeled oligonucleotide on a solid support using, *e.g.*, a restriction enzyme. Urdea does <u>not</u> teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking synthetic activity, nor does Urdea teach the cleavage of such overlapping structures with a thermostable 5' nuclease lacking synthetic activity. While Applicants do not acquiesce that the other elements necessary for establishing prima facie obviousness have been met, Applicants submit that the combination of Harrington I and Urdea does not teach or suggest all the limitations of Claims 105-106, 118-119 and 122,

and cited art therefore fails to establish prima facie obviousness. Applicants respectfully request that this rejection be removed.

8. Claims 105-106, 118-119 and 122 stand rejected as being allegedly being unpatentable under 35 U.S.C. § 103(a) over Harrington II in view of Urdea.

Claims 105-106, 118-119 and 122 depend from Claim 101 and incorporate each recited element of Claim 101. For the reasons recited above at **4**, Applicants submit that Harrington II does anticipate Claim 101 because Harrington II does not teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking synthetic activity. Urdea fails to overcome this deficiency. Urdea teaches the cleavage of a labeled oligonucleotide on a solid support using, *e.g.*, a restriction enzyme. Urdea does not teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking synthetic activity, nor does Urdea teach the cleavage of such overlapping structures with a thermostable 5' nuclease lacking synthetic activity. While Applicants do not acquiesce that the other elements necessary for establishing prima facie obviousness have been met, Applicants submit that the combination of Harrington II and Urdea does not teach or suggest all the limitations of Claims 105-106, 118-119 and 122, and the cited art therefore fails to establish prima facie obviousness. Applicants respectfully request that this rejection be removed.

9. Claims 120-121 stand rejected as being allegedly being unpatentable under 35 U.S.C. § 103(a) over Harrington I in view of Corey.

Claims 120 and 121 depend from Claim 101 and incorporate each recited element of Claim 101. For the reasons recited above at **3**, Applicants submit that Harrington I does anticipate Claim 101 because Harrington I does not teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure

when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking synthetic activity. Corey fails to overcome this deficiency. Corey teaches the attachment of a polypeptide to a nucleic acid to enhance hybridization. Corey does not teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking synthetic activity, nor does Corey teach the cleavage of such overlapping structures with a thermostable 5' nuclease lacking synthetic activity. While Applicants do not acquiesce that the other elements necessary for establishing prima facie obviousness have been met, Applicants submit that the combination of Harrington I and Corey does not teach or suggest all the limitations of Claims 120 and 121, and cited art therefore fails to establish prima facie obviousness. Applicants respectfully request that this rejection be removed.

10. Claims 120-121 stand rejected as being allegedly being unpatentable under 35 U.S.C. § 103(a) over Harrington II in view of Corey.

Claims 120 and 121 depend from Claim 101 and incorporate each recited element of Claim 101. For the reasons recited above at **4**, Applicants submit that Harrington II does anticipate Claim 101 because Harrington II does not teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking synthetic activity. Corey fails to overcome this deficiency. Corey teaches the attachment of a polypeptide to a nucleic acid to enhance hybridization. Corey does not teach the recited combination of: 1) first and a second oligonucleotides that comprise defined regions of complementarity to a target nucleic acid such that they form an overlapped structure when annealed to the target nucleic acid; and 2) a thermostable 5' nuclease lacking synthetic activity, nor does Corey teach the cleavage of such overlapping structures with a thermostable 5' nuclease lacking synthetic activity. While Applicants do not acquiesce that the other elements necessary for establishing prima facie obviousness have been met, Applicants submit that the combination of Harrington II and Corey does

not teach or suggest all the limitations of Claims 120 and 121, and cited art therefore fails to establish prima facie obviousness. Applicants respectfully request that this rejection be removed.

11- 15. Claims 101-106 and 111-125 stand rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over various claims of prior U.S. Patent Nos. 6, 872,816, 6,562,611, and 6,913,881 and co-pending application Serial No. 11/103,943. As all of these patents and applications are co-owned by the present Applicants, Applicants herein file a terminal disclaimer to overcome these rejections, and respectfully request that these rejections be removed.

16. Claims 101-106 and 111-120 and 122-125 stand provisionally rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over co-pending Application '487. In particular, the Examiner asserts that Claims 101-106 and 111-120 and 122-125 are co-extensive in scope with Claims 1-7 of the '487 application. Applicants respectfully disagree.

The '487 application claims detection assays that are specific for the detection of Hepatitis C virus (HCV). Each of Claims 1-7 specifically recites that the claimed detection assay is configured for detecting a single nucleotide polymorphism in a position of a 5' UTR sequence of HCV selected from the group consisting of: -245, -167, -163, -155, -144, -118, and -80. In contrast, the claims of the instant application are directed to sets of reagents that are not limited to any particular target nucleic acid or organism. Even if the detection assays of Claims 1-7 make use of the reagents claimed in the instant application, the claims of '487 are substantially different in scope in that each of Claims 1-7 is limited to the collection single nucleotide polymorphisms listed above. Applicants submit that the claims of the '487 application are NOT co-extensive in scope with Claims 101-106 and 111-120 and 122-125, and that this rejection is therefore improper. Applicants respectfully request that these rejections be removed.

17. Claim 121 stands provisionally rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over co-pending Application '487

in view of Corey. In particular, the Examiner asserts that Claim 121 is obvious in view of the combination of Claims 1-7 of the '487 application and the teachings of Corey. Applicants respectfully disagree.

The '487 application claims detection assays that are specific for the detection of HCV. Each of Claims 1-7 specifically recites that the claimed detection assay is configured for detecting a single nucleotide polymorphism in a position of a 5' UTR sequence of HCV selected from the group consisting of: -245, -167, -163, -155, -144, -118, and -80. In contrast, the claims of the instant application are directed to sets of reagents that are not limited to any particular target nucleic acid or organism. Even if the detection assays of Claims 1-7 make use of the reagents claimed in the instant application, the claims of '487 are substantially different in scope in that each of Claims 1-7 is limited to the collection single nucleotide polymorphisms listed above. As discussed above at **16**, Applicants submit that the Claims 1-7 of the '487 application are NOT co-extensive in scope with the claims of the instant application. With respect to Claim 121, the combination with Corey does not cure the deficiency. Corey teaches the attachment of a polypeptide to a nucleic acid to enhance hybridization. Even if this combination were proper (and Applicants are not acquiescing that the combination is proper), Claims 1-7 of the '487 as modified by the teachings of Corey remain limited to the collection single nucleotide polymorphisms of HCV listed above and are thus not co-extensive in scope with Claim 121 of the instant application. This rejection is therefore improper and Applicants respectfully request that these rejections be removed.

18. Claims 101-106 and 111-120 and 122-125 stand provisionally rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over co-pending Application '408. In particular, the Examiner asserts that Claims 101-106 and 111-120 and 122-125 are co-extensive in scope with Claims 1-13 and 24-29 of the '408 application. Applicants respectfully disagree.

The '408 application claims detection assays that are specific for the detection of alleles of a Connexin 26 gene. Each of Claims 1-13 and 24-29 specifically recites that the claimed detection assay is configured for detection of at least one Connexin 26 allele. In contrast, the claims of the instant application are directed to sets of reagents that are

not limited to any particular target nucleic acid or organism. Thus, with respect to the target nucleic acid, the Claims 1-13 and 24-29 of the '408 application are substantially different in scope than the instant claims.

As a further distinction, at least Claims 1-7, 11-13, 24, 25, and 29 of '408, while being limited to the detection of a Connexin 26 allele, are NOT limited to the use of the sets of reagents claimed in the present assay. See, for example, Claim 29, which recites that the claimed oligonucleotide detection assays are selected from sequencing assays, polymerase chain reaction assays, hybridization assays, hybridization assays employing a probe complementary to a mutation, microarray assays, bead array assays, primer extension assays, enzyme mismatch cleavage assays, branched hybridization assays, rolling circle replication assays, NASBA assays, molecular beacon assays, cycling probe assays, ligase chain reaction assays, invasive cleavage structure assays, ARMS assays, and sandwich hybridization assays.

For the reasons described above, Applicants submit that the claims of the '408 application are NOT co-extensive in scope with Claims 101-106 and 111-120 and 122-125 of the instant application, and that this rejection is therefore improper. Applicants respectfully request that these rejections be removed.

19. Claim 121 stands provisionally rejected as being unpatentable under the judicially created doctrine of obviousness-type double patenting over co-pending Application '408 in view of Corey. In particular, the Examiner asserts that Claim 121 is obvious in view of the combination of Claims 1-7 of the '487 application and the teachings of Corey. Applicants respectfully disagree.

As discussed above at **18**, Applicants submit that the claims of the '408 application are NOT co-extensive in scope with Claims 101-106 and 111-120 and 122-125 of the instant application. With respect to Claim 121, the combination with Corey does not cure the deficiency. Corey teaches the attachment of a polypeptide to a nucleic acid to enhance hybridization. Even if this combination were proper (and Applicants are not acquiescing that the combination is proper), Claims 1-13 and 24-29 of the '408 application as modified by the teachings of Corey remain limited to the detection of at least one Connexin 26 allele. Furthermore, as discussed above, at least Claims 1-7, 11-

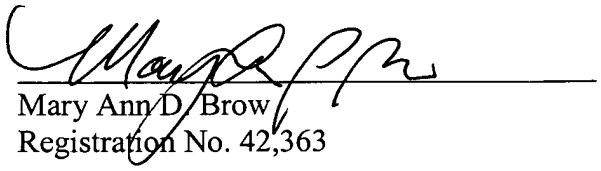
13, 24, 25, and 29 of '408, while being limited to the detection of a Connexin 26 allele, are NOT limited to the use of the sets of reagents claimed in the present assay. The application of Corey to these claims does not alter this distinction from the instant Claim 121.

For the reasons described above, Applicants submit that the claims of the '408 application as modified by Corey are NOT co-extensive in scope with, and do not make obvious Claim 121 of the instant application, and that this rejection is therefore improper. Applicants respectfully request that these rejections be removed.

CONCLUSION

For the reasons set forth above, it is respectfully submitted that all rejections have been addressed and should be removed, and Applicants' claims should be passed to allowance. Should the Examiner believe that a telephone interview would aid in the prosecution of this application, Applicants encourages the Examiner to call the undersigned collect at (608) 218-6900.

Dated: March 8, 2006



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